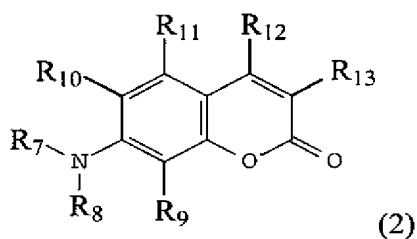


## **REMARKS**

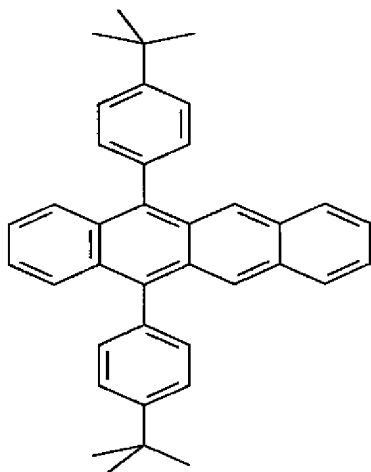
As confirmed by the Examiner, the species under consideration remain as the following:

Host: Aluminum trisoxine alone

First Dopant: Formula 2 - a green coumarin

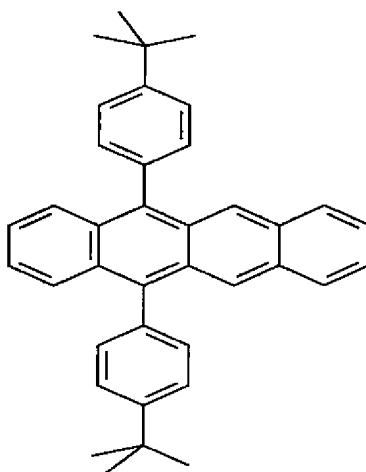


Second Dopant: Inv-Ib - a tetracene



Claims 1, 3-10, 12, 14, and 16-22 again stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nakaya et al. (US 6,203,933) in view of Tang et al. (US 4,769,292). According to the Examiner:

Nakaya et al. teaches organic EL elements comprising light emitting layer including a host material such as aluminum complexes having 8-quinolinol as a ligand with regard to the host material aluminum trisoxine (see col. 33, line 43-48 and 17-28) ("host"). At least one compound according to the Nakaya et al. formula (I) is contained in the light emitting layer in an amount of at least 0.1% by weight (see col. 33, lines 29-31) ("second dopant"). The specific formula (I) compound



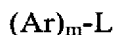
is taught at col. 11-12 (bottom half of page), compound “1-4”. Nakaya et al. further teaches “the light emitting layer may additionally contain another luminescent material in addition to the compound of the general formula (I)” such as those “disclosed in JP 264692/1998” (see col. 33, lines 15-19 (“first dopant”). A patent family equivalent of JP 264692/1998 is Tang et al. (US 4,769,292), which teaches fluorescent coumarin dyes as dopants (see col. 11, line 31 and following). It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected the coumarin dye as an additional luminescent component for the light emitting layer, because Nakaya et al. discloses dyes such as those taught in JP 264692/1998 are suitable and Tang et al. teaches in the U.S. patent equivalent of JP 264692/1998 that coumarin dyes are suitable dopants. A prima facie case for combining the host, first dopant, and second dopant has been established and since each of the three materials are the same as applicant’s materials, the emission properties of claims 1 and 4 are considered to be inherent.... In addition, it would have been obvious to one of ordinary skill in the art to have included the “additional luminescent component” (“first dopant”) in a similar amount as the formula (I) compound (“second dopant”), because one would expect the additional luminescent component to be similarly incorporated into the device and to perform a similar function as the specifically mention formula (I) luminescent component.

Applicant argues the Examiner “has not addressed the differences between the invention for the present claim 1 and the cited art”. The differences applicant lists are properties and capabilities of each of the combined materials of the mixed light emitting layer. The examiner submits the rejection renders obvious the combination of materials for a mixed light-emitting layer. Any properties associated with those materials would appear to be the same, intrinsic properties. Recitation of a newly disclosed property does not distinguish over a reference disclosure of the article or composition claims. *General Electric v. Jewe Incandescent Lamp Co.*, 67 USPQ 155. *Titanium Metal Corp. v. Banner*, 227 USPQ 773. Applicant bears responsibility for proving that reference composition

does not possess the characteristics recited in the claims. In re Fitzgerald, 205 USPQ 597, In re Best, 195 USPQ 430.

The Office Action presumes that a precise combination within the present claims has been shown by the reference and then proceeds to the conclusion that the mere recitation of a newly discovered inherent property is not a basis for patentability. However, Applicants have not been able to uncover a disclosure of a combination within the present claims.

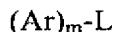
In its broadest form, at col. 1, line 53 et seq. of Nakaya, the invention is including a compound of the formula



in an EL device (with certain limited compounds provisoed out).

where L is a residue of a fused ring group of 3 to 10 rings and Ar is an aromatic bearing group, and m is 2 to 6

At col. 41, lines 21-et seq. Nakaya calls for an EL element containing a mixed emitting layer comprising a three component system that may contain an added fourth luminescent component. The first required component is generally a hole injecting and transporting host compound. The second is generally an electron injecting and transporting compound. The third compound is a luminescent guest material generally of Formula (I):



where L is a residue of a fused ring group of 3 to 10 rings and Ar is an aromatic bearing group, and m is 2 to 6. The fourth optional component is a further luminescent material as suggested by the secondary Tang reference.

Regarding component three, billions of materials fall within this generic description. Among this list is compound 1-4 at col. 11 of Nakaya which is the same as the elected component Ib in the invention. Component Ib is never suggested in a specific combination. Thus, it is not expressly suggested for use with the Alq<sub>3</sub> and the coumarin emitter of the currently elected species of the invention. The present claims not only depend on the presence of three specified components, they also depend on an inter-relationship between the three components. This is different than depending on the properties of the individual components. This is because there is a selection factor necessary to make the

invention work predictably, and there is no suggestion in the art cited on making that selection.

The Office Action does not correctly apply the inherency doctrine. In an obviousness situation, the Examiner has the burden of demonstrating an anticipation that necessarily includes the unstated property. “Under the principles of inherency, if a structure in the prior art necessarily functions in accordance with the limitations of a process or method claim of an application, the claim is anticipated.” In re King, 231 USPQ 136, 138 (Fed Cir 1986). “In relying upon the theory of inherency, the examiner must provide a basis in fact and /or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art” Ex Parte Levy, 17 USPQ 2d (BPAI 1994).

In the present rejection, the Examiner has not found an explicit disclosure of the three component system of the present invention and then claimed that the requisite inter-relationship of properties is inherent. The Examiner has merely picked and chosen from three generic descriptions of components, those for “Formula 1” and hosts and those for “another luminescent material” from the Tang secondary reference. There is no suggestion that the selection of these components meets any relationship with respect to band gap energy nor is there any suggestion that the addition of the compound of Formula 1 should not significantly affect the hue of the emitted light (since the compound of Formula 1 is selected to be substantially non-emitting rather than being “another luminescent material”). Clearly the breadth of the compounds in the references and the broad scope of possible substituents leaves no doubt that the bandgap values can vary over broad ranges and the Examiner has provided no basis to conclude that all combinations would necessarily satisfy the relationships.

If the Examiner’s position were to be upheld, it would be tantamount to preventing the allowance of selection patents based on the demonstration of a selection criteria resulting in unpredicted results.

According to the Examiner,

Nakaya clearly discloses the required known materials and it would be well within the level of skill in the art to select the required materials for a light emitting layer with a predictable result. Where a claimed improvement on a device or apparatus is no more than “the simple substitution of one known element for another or the mere application of a

known technique to a piece of prior art ready for improvement,” the claim is unpatentable under 35 U.S.C. 103(a).

The Examiner has not explained that many of the possible selections would be well outside the requisite bandgap relationship nor that Nakaya contemplates co-emission by two component emitters, contrary to the present invention.

According to the Examiner,

Applicant argues “the compound(1) of Nakaya is an emitter insofar as his enabling disclosure is concerned, there is no suggestion or motivation in any of the references to combine a host, an emitter and a compound (1) selected to provide improved stability “without significantly affecting the color of emission.” As stated in the previous Office action, the examiner submits applicant’s use of the term “not significantly affected” is not patentably significant because the term is not associated with a specific degree or range of variance in color.

Applicants believe that the data in the application gives an ample frame of reference to the meaning of the term “without significantly affecting the color of emission”. In Table 2 at page 34 of the specification, the term in question is applied to a CIE<sub>x</sub> variance of 0.006 and a CIE<sub>y</sub> variation of 0.003. In Table 6 it is applied to a variance in CIE<sub>x</sub> of 0.027 and CIE<sub>y</sub> of 0.009. These ranges provide a foundation for the terms employed.

The Examiner notes:

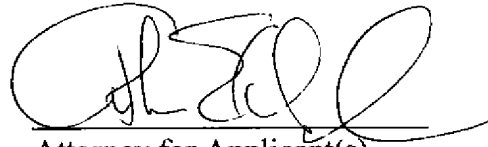
Applicant argue there is no justification for applying inherency to the combined materials for the light emitting layer.. As stated above, the examiner submits the rejection renders obvious the combination of materials for a mixed light-emitting layer. The properties associated with each of those individual materials would appear to be intrinsic properties. Recitation of a newly disclosed property does not distinguish over a reference disclosure of the article or composition claims. General Electric v. Jewel Incandescent Lamp Co., 67 USPQ 155. Titanium Metal Corp. v. Banner, 227 USPQ 773. Applicant bears responsibility for proving that reference composition does not possess the characteristics recited in the claims. In re Fitzgerald, 205 USPQ 597, In re Best, 195 USPQ 430.

As stated above, the relationship of the component properties is not intrinsic to the individual components. They must be selected to provide the desired results. Not only does the reference not disclose the combination of the elected species, it provides no suggestion of how to select substituents to achieve

the results of the invention, nor does the Examiner provide any suggestion on how to select the desired combination from compounds of each class.

The Examiner is respectfully requested to withdraw the outstanding rejection and to pass the subject application to Allowance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'A. Kluegel', written over a horizontal line.

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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.